

35011097CRF  
SEQUENCE LISTING

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<120> NON-COMPETITIVE IMMUNOASSAY FOR SMALL ANALYTES

<130> 3501-1097

<140> 10/535,260

<141> 2005-05-18

<150> PCT/FI2003/000875

<151> 2003-11-17

<150> FI 20022048

<151> 2002-11-18

<160> 16

<170> PatentIn version 3.1

<210> 1

<211> 215

<212> PRT

<213> Mus sp.

<400> 1

Met Ala Asp Ile Lys Met Thr Gln Thr Pro Ser Ser Leu Ser Ala Ser  
1 5 10 15

Leu Gly Asp Arg Val Thr Ile Ser Cys Arg Ala Ser Gln Asp Ile Ser  
20 25 30

Asn Tyr Leu Asn Trp Tyr Gln Gln Lys Pro Asp Gly Thr Val Lys Leu  
35 40 45

Leu Ile Tyr Tyr Thr Ser Arg Leu His Ser Gly Val Pro Ser Arg Phe  
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Ser Asn Leu  
65 70 75 80

Glu Gln Glu Asp Ile Ala Thr Tyr Phe Cys Gln Gln Gly Asn Thr Leu  
85 90 95

Trp Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg Ala Asp Thr  
100 105 110

Ala Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu Gln Leu Thr Ser  
115 120 125

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Gly Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe Tyr Pro Lys Asp  
130 135 140

Ile Asn Val Lys Trp Asn Ile Asp Gly Ser Glu Arg Gln Asn Gly Val  
145 150 155 160

Leu Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser Thr Tyr Ser Met  
165 170 175

Ser Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu Arg His Asn Ser  
180 185 190

Tyr Thr Cys Glu Ala Thr His Lys Thr Ser Thr Ser Pro Ile Val Lys  
195 200 205

Ser Phe Asn Arg Asn Glu Cys  
210 215

<210> 2  
<211> 236  
<212> PRT  
<213> Mus sp.

<400> 2

Met Ala Ala Glu Val Lys Leu Val Glu Ser Gly Gly Thr Leu Val Lys  
1 5 10 15

Pro Gly Gly Ser Leu Lys Leu Ser Cys Glu Ala Ser Gly Ile Thr Phe  
20 25 30

Ser Thr Tyr Val Met Ser Trp Val Arg Gln Thr Pro Glu Lys Arg Leu  
35 40 45

Glu Trp Val Ala Ser Ile Asn Ser Gly Gly Arg Thr Tyr Tyr Pro Asp  
50 55 60

Ser Val Lys Gly Arg Phe Ala Ile Ser Arg Asp Asp Lys Gly Asn Ile  
65 70 75 80

Leu Tyr Leu Gln Leu Asn Ser Leu Arg Ser Glu Asp Thr Ala Ile Tyr  
85 90 95

Tyr Cys Ala Arg Glu Gly Ser Tyr Gly Asn Asn Trp Tyr Phe Asp Val  
100 105 110

Trp Gly Ala Gly Thr Thr Val Thr Val Ser Ser Ala Lys Thr Thr Pro  
115 120 125

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Pro Ser Val Tyr Pro Leu Val Pro Gly Ser Ala Ala Gln Thr Asn Ser  
130 135 140

Met Val Thr Leu Gly Cys Leu Val Lys Gly Tyr Phe Pro Glu Pro Val  
145 150 155 160

Thr Val Thr Trp Asn Ser Gly Ser Leu Ser Ser Gly Val His Thr Phe  
165 170 175

Pro Ala Val Leu Gln Ser Asp Leu Tyr Thr Leu Ser Ser Ser Val Thr  
180 185 190

Val Pro Ser Ser Thr Trp Pro Ser Glu Thr Val Thr Cys Asn Val Ala  
195 200 205

His Pro Ala Ser Ser Thr Lys Val Asp Lys Lys Ile Val Pro Arg Asp  
210 215 220

Cys Gly Thr Ser Trp Ser His Pro Gln Phe Glu Lys  
225 230 235

<210> 3  
<211> 215  
<212> PRT  
<213> Mus sp.

<400> 3

Met Ala Asp Ile Lys Met Thr Gln Thr Pro Ser Ser Leu Ser Ala Ser  
1 5 10 15

Leu Gly Asp Arg Val Thr Ile Ser Cys Arg Ala Ser Gln Asp Ile Asn  
20 25 30

Tyr Tyr Leu Asn Trp Tyr Gln Gln Lys Pro Asp Gly Thr Val Lys Leu  
35 40 45

Leu Ile Tyr Tyr Thr Ser Ile Leu His Ser Gly Val Pro Ser Arg Phe  
50 55 60

Ser Gly Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Ser Asn Leu  
65 70 75 80

Glu Gln Glu Asp Ile Ala Thr Tyr Phe Cys Gln Gln Gly Asn Ala Leu  
85 90 95

Trp Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg Ala Asp Ala  
100 105 110

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Ala Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu Gln Leu Thr Ser  
115 120 125

Gly Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe Tyr Pro Lys Asp  
130 135 140

Ile Asn Val Lys Trp Lys Ile Asp Gly Ser Glu Arg Gln Asn Gly Val  
145 150 155 160

Leu Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser Thr Tyr Ser Met  
165 170 175

Ser Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu Arg His Asn Ser  
180 185 190

Tyr Thr Cys Glu Ala Thr His Lys Thr Ser Thr Ser Pro Ile Val Lys  
195 200 205

Ser Phe Asn Arg Asn Glu Cys  
210 215

<210> 4  
<211> 236  
<212> PRT  
<213> Mus sp.

<400> 4

Met Ala Ala Glu Val Asn Leu Val Glu Ser Gly Gly Gly Leu Val Lys  
1 5 10 15

Pro Gly Gly Ser Leu Lys Leu Ser Cys Glu Ala Ser Gly Ile Thr Phe  
20 25 30

Ser Lys Tyr Val Ile Thr Trp Val Arg Gln Ala Pro Glu Lys Arg Leu  
35 40 45

Glu Trp Val Thr Ser Ile Asn Ser Gly Gly Arg Thr Tyr Tyr Pro Asp  
50 55 60

Ser Val Lys Gly Arg Phe Ala Ile Ser Arg Asp Asn Ala Gly Asn Ile  
65 70 75 80

Leu Tyr Leu Gln Met Asn Ser Leu Arg Ser Glu Asp Thr Ala Ile Tyr  
85 90 95

Tyr Cys Thr Arg Glu Gly Ser Tyr Gly Asn Asn Trp Tyr Phe Asp Val  
100 105 110

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Trp Gly Ala Gly Thr Thr Val Thr Leu Ser Ser Ala Lys Thr Thr Pro  
115 120 125

Pro Ser Val Tyr Pro Leu Ala Pro Gly Ser Ala Ala Gln Thr Asn Ser  
130 135 140

Met Val Thr Leu Gly Cys Leu Val Lys Gly Tyr Phe Pro Glu Pro Val  
145 150 155 160

Thr Val Thr Trp Asn Ser Gly Ser Leu Ser Ser Gly Val His Thr Phe  
165 170 175

Pro Ala Val Leu Gln Ser Asp Leu Tyr Thr Leu Ser Ser Ser Val Thr  
180 185 190

Val Pro Ser Ser Thr Trp Pro Ser Glu Thr Val Thr Cys Asn Val Ala  
195 200 205

His Pro Ala Ser Ser Thr Lys Val Asp Lys Lys Ile Val Pro Arg Asp  
210 215 220

Cys Gly Thr Ser Trp Ser His Pro Gln Phe Glu Lys  
225 230 235

<210> 5  
<211> 272  
<212> PRT  
<213> Homo sapiens

<400> 5

Met Ala Gln Val Gln Leu Val Gln Ser Gly Gly Gly Leu Val Gln Pro  
1 5 10 15

Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asp  
20 25 30

Asp Tyr Ala Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu  
35 40 45

Trp Val Ser Gly Ile Ser Trp Asn Ser Gly Ser Ile Gly Tyr Ala Asp  
50 55 60

Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser  
65 70 75 80

Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr  
85 90 95

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Tyr Cys Ala Arg Glu Arg Gly Gly Tyr Tyr Phe Asp Tyr Trp Gly Gln  
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser Leu Glu Gly Gly Gly Gly Ser Gly  
 115 120 125

Gly Gly Gly Ser Gly Gly Gly Gly Ser Glu Leu Asp Ile Gln Met Thr  
 130 135 140

Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile  
 145 150 155 160

Thr Cys Gln Ala Ser Gln Asp Ile Ser Asn Tyr Leu Asn Trp Tyr Gln  
 165 170 175

Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Asp Ala Ser Asn  
 180 185 190

Leu Glu Thr Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr  
 195 200 205

Asp Phe Thr Phe Thr Ile Ser Ser Leu Gln Pro Glu Asp Ile Ala Thr  
 210 215 220

Tyr Tyr Cys Gln Gln Ser Tyr Ser Thr Pro Tyr Thr Phe Gly Gln Gly  
 225 230 235 240

Thr Arg Leu Glu Ile Lys Arg Ala Ala Ala Glu Gln Lys Leu Ile Ser  
 245 250 255

Glu Glu Asp Leu Asn Gly Ala Ala Ser Arg His His His His His His  
 260 265 270

<210> 6  
 <211> 106  
 <212> PRT  
 <213> Mus sp.

<400> 6

Asp Ile Lys Met Thr Gln Thr Pro Ser Ser Leu Ser Ala Ser Leu Gly  
 1 5 10 15

Asp Arg Val Thr Ile Ser Cys Arg Ala Ser Gln Asp Ile Ser Asn Tyr  
 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Asp Gly Thr Val Lys Leu Leu Ile  
 35 40 45

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Tyr Tyr Thr Ser Arg Leu His Ser Gly Val Pro Ser Arg Phe Ser Gly  
50 55 60

Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Ser Asn Leu Glu Gln  
65 70 75 80

Glu Asp Ile Ala Thr Tyr Phe Cys Gln Gln Gly Asn Thr Leu Trp Thr  
85 90 95

Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys  
100 105

<210> 7  
<211> 107  
<212> PRT  
<213> Mus sp.

<400> 7

Arg Ala Asp Thr Ala Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu  
1 5 10 15

Gln Leu Thr Ser Gly Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe  
20 25 30

Tyr Pro Lys Asp Ile Asn Val Lys Trp Asn Ile Asp Gly Ser Glu Arg  
35 40 45

Gln Asn Gly Val Leu Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser  
50 55 60

Thr Tyr Ser Met Ser Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu  
65 70 75 80

Arg His Asn Ser Tyr Thr Cys Glu Ala Thr His Lys Thr Ser Thr Ser  
85 90 95

Pro Ile Val Lys Ser Phe Asn Arg Asn Glu Cys  
100 105

<210> 8  
<211> 120  
<212> PRT  
<213> Mus sp.

<400> 8

Glu Val Lys Leu Val Glu Ser Gly Gly Thr Leu Val Lys Pro Gly Gly  
1 5 10 15

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Ser Leu Lys Leu Ser Cys Glu Ala Ser Gly Ile Thr Phe Ser Thr Tyr  
20 25 30

Val Met Ser Trp Val Arg Gln Thr Pro Glu Lys Arg Leu Glu Trp Val  
35 40 45

Ala Ser Ile Asn Ser Gly Gly Arg Thr Tyr Tyr Pro Asp Ser Val Lys  
50 55 60

Gly Arg Phe Ala Ile Ser Arg Asp Asp Lys Gly Asn Ile Leu Tyr Leu  
65 70 75 80

Gln Leu Asn Ser Leu Arg Ser Glu Asp Thr Ala Ile Tyr Tyr Cys Ala  
85 90 95

Arg Glu Gly Ser Tyr Gly Asn Asn Trp Tyr Phe Asp Val Trp Gly Ala  
100 105 110

Gly Thr Thr Val Thr Val Ser Ser  
115 120

<210> 9  
<211> 103  
<212> PRT  
<213> Mus sp.

<400> 9

Ala Lys Thr Thr Pro Pro Ser Val Tyr Pro Leu Val Pro Gly Ser Ala  
1 5 10 15

Ala Gln Thr Asn Ser Met Val Thr Leu Gly Cys Leu Val Lys Gly Tyr  
20 25 30

Phe Pro Glu Pro Val Thr Val Thr Trp Asn Ser Gly Ser Leu Ser Ser  
35 40 45

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Asp Leu Tyr Thr Leu  
50 55 60

Ser Ser Ser Val Thr Val Pro Ser Ser Thr Trp Pro Ser Glu Thr Val  
65 70 75 80

Thr Cys Asn Val Ala His Pro Ala Ser Ser Thr Lys Val Asp Lys Lys  
85 90 95

Ile Val Pro Arg Asp Cys Gly  
100



<210> 10  
 <211> 106  
 <212> PRT  
 <213> Mus sp.

<400> 10

Asp Ile Lys Met Thr Gln Thr Pro Ser Ser Leu Ser Ala Ser Leu Gly  
 1 5 10 15

Asp Arg Val Thr Ile Ser Cys Arg Ala Ser Gln Asp Ile Asn Tyr Tyr  
 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Asp Gly Thr Val Lys Leu Leu Ile  
 35 40 45

Tyr Tyr Thr Ser Ile Leu His Ser Gly Val Pro Ser Arg Phe Ser Gly  
 50 55 60

Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Ser Asn Leu Glu Gln  
 65 70 75 80

Glu Asp Ile Ala Thr Tyr Phe Cys Gln Gln Gly Asn Ala Leu Trp Thr  
 85 90 95

Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys  
 100 105

<210> 11  
 <211> 107  
 <212> PRT  
 <213> Mus sp.

<400> 11

Arg Ala Asp Ala Ala Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu  
 1 5 10 15

Gln Leu Thr Ser Gly Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe  
 20 25 30

Tyr Pro Lys Asp Ile Asn Val Lys Trp Lys Ile Asp Gly Ser Glu Arg  
 35 40 45

Gln Asn Gly Val Leu Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser  
 50 55 60

Thr Tyr Ser Met Ser Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu  
 65 70 75 80

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Arg His Asn Ser Tyr Thr Cys Glu Ala Thr His Lys Thr Ser Thr Ser  
85 90 95

Pro Ile Val Lys Ser Phe Asn Arg Asn Glu Cys  
100 105

<210> 12  
<211> 120  
<212> PRT  
<213> Mus sp.

<400> 12

Glu Val Asn Leu Val Glu Ser Gly Gly Gly Leu Val Lys Pro Gly Gly  
1 5 10 15

Ser Leu Lys Leu Ser Cys Glu Ala Ser Gly Ile Thr Phe Ser Lys Tyr  
20 25 30

Val Ile Thr Trp Val Arg Gln Ala Pro Glu Lys Arg Leu Glu Trp Val  
35 40 45

Thr Ser Ile Asn Ser Gly Gly Arg Thr Tyr Tyr Pro Asp Ser Val Lys  
50 55 60

Gly Arg Phe Ala Ile Ser Arg Asp Asn Ala Gly Asn Ile Leu Tyr Leu  
65 70 75 80

Gln Met Asn Ser Leu Arg Ser Glu Asp Thr Ala Ile Tyr Tyr Cys Thr  
85 90 95

Arg Glu Gly Ser Tyr Gly Asn Asn Trp Tyr Phe Asp Val Trp Gly Ala  
100 105 110

Gly Thr Thr Val Thr Leu Ser Ser  
115 120

<210> 13  
<211> 103  
<212> PRT  
<213> Mus sp.

<400> 13

Ala Lys Thr Thr Pro Pro Ser Val Tyr Pro Leu Ala Pro Gly Ser Ala  
1 5 10 15

Ala Gln Thr Asn Ser Met Val Thr Leu Gly Cys Leu Val Lys Gly Tyr  
20 25 30

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Phe Pro Glu Pro Val Thr Val Thr Trp Asn Ser Gly Ser Leu Ser Ser  
35 40 45

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Asp Leu Tyr Thr Leu  
50 55 60

Ser Ser Ser Val Thr Val Pro Ser Ser Thr Trp Pro Ser Glu Thr Val  
65 70 75 80

Thr Cys Asn Val Ala His Pro Ala Ser Ser Thr Lys Val Asp Lys Lys  
85 90 95

Ile Val Pro Arg Asp Cys Gly  
100

<210> 14  
<211> 118  
<212> PRT  
<213> Homo sapiens

<400> 14

Gln Val Gln Leu Val Gln Ser Gly Gly Gly Leu Val Gln Pro Gly Arg  
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asp Asp Tyr  
20 25 30

Ala Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val  
35 40 45

Ser Gly Ile Ser Trp Asn Ser Gly Ser Ile Gly Tyr Ala Asp Ser Val  
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr  
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys  
85 90 95

Ala Arg Glu Arg Gly Gly Tyr Tyr Phe Asp Tyr Trp Gly Gln Gly Thr  
100 105 110

Leu Val Thr Val Ser Ser  
115

<210> 15  
<211> 19  
<212> PRT  
<213> Homo sapiens

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<400> 15

Leu Glu Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly  
1 5 10 15

Ser Glu Leu

<210> 16

<211> 107

<212> PRT

<213> Homo sapiens

<400> 16

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly  
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Asp Ile Ser Asn Tyr  
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile  
35 40 45

Tyr Asp Ala Ser Asn Leu Glu Thr Gly Val Pro Ser Arg Phe Ser Gly  
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Phe Thr Ile Ser Ser Leu Gln Pro  
65 70 75 80

Glu Asp Ile Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Ser Thr Pro Tyr  
85 90 95

Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys  
100 105